AMENDMENTS TO THE CLAIMS

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-28. (Canceled)

29. (Currently Amended) A method for treating ~~or alleviating symptoms of~~ an autoimmune disease in a patient having or suffering an autoimmune disease, comprising:

depleting T cells in the patient; and

reactivating the thymus of the patient, the thymus being reactivated by disruption of sex steroid-mediated signaling to the thymus,

~~wherein~~ the patient [[has]] having an improved prognosis for the autoimmune disease compared to an untreated patient suffering from the autoimmune disease.

30. (Original) The method of claim 29, wherein the thymus of the patient has been at least in part atrophied before it is reactivated.

31. (Canceled)

32. (Currently Amended) The method of claim 29, further comprising administering ~~cells to the patient, wherein the cells are~~ stem cells, progenitor cells, dendritic cells, or combinations thereof, to the patient.

33. (Original) The method of claim 32, wherein the stem cells are selected from the group consisting of hematopoietic stem cells, epithelial stem cells, and combinations thereof.

34. (Withdrawn) The method of claim 32, wherein the progenitor cells are selected from the group consisting of lymphoid progenitor cells, myeloid progenitor cells, and combinations thereof.

35. (Canceled)

36. (Currently Amended) The method of claim 33, wherein the stem cells are hematopoietic stem cells.

37. (Previously Presented) The method of claim 36, wherein the hematopoietic stem cells are $CD34^{+}$.

38. (Previously Presented) The method of claim 32, wherein the cells are autologous.

39. (Previously Presented) The method of claim 32, wherein the cells are not autologous.

40. (Previously Presented) The method of claim 32, wherein the cells are administered when the thymus begins to reactivate.

41-45. (Canceled)

46. (Withdrawn) The method of claim 31, wherein the sex steroid-mediated signaling to the thymus is disrupted by surgical castration.

47. (Currently Amended) The method of claim [[31]] 29, wherein the sex steroid-mediated signaling to the thymus is disrupted by chemical castration.

48. (Currently Amended) The method of claim [[31]] 29, wherein the sex steroid-mediated signaling to the thymus is disrupted by administration of a pharmaceutical.

49. (Previously Presented) The method of claim 48, wherein the pharmaceutical is selected from the group consisting of LHRH agonists, LHRH antagonists, anti-LHRH vaccines, anti-androgens, anti-estrogens, SERMs, SARMs, SPRMs, ERDs, aromatase inhibitors, anti-progestogens, Dioxalan derivatives, and combinations thereof.

50. (Previously Presented) The method of claim 49, wherein the LHRH agonists are selected from the group consisting of Goserelin, Leuprolide, Lupron, Triptorelin, Meterelin, Buserelin, Histrelin, Nafarelin, Lutrelin, Leuprorelin, Deslorelin, Cystorelin, Decapeptyl, Gonadorelin, and combinations thereof.

51. (Withdrawn) The method of claim 49, wherein the LHRH antagonists are selected from the group consisting of Abarelix, Cetrorelix, and combinations thereof.

52. (Canceled)

53. (Withdrawn) A method for treating or preventing an allergy in a patient, comprising:
depleting T cells in the patient; and
reactivating a thymus of the patient,
wherein the treated patient has an improved prognosis compared to an untreated patient.

54. (Withdrawn) The method of claim 53, wherein the thymus of the patient has been at least in part atrophied before it is reactivated.

55. (Withdrawn) The method of claim 54, wherein the thymus is reactivated by disruption of sex steroid-mediated signaling to the thymus.

56. (Withdrawn) The method of claim 53, wherein the patient is post-pubertal.

57. (Withdrawn) The method of claim 53, further comprising administering cells to the patient, wherein the cells are stem cells, progenitor cells, dendritic cells or combinations thereof.

58. (Withdrawn) The method of claim 57, wherein the stem cells are selected from the group consisting of hematopoietic stem cells, epithelial stem cells, and combinations thereof.

59. (Withdrawn) The method of claim 57, wherein the progenitor cells are selected from the group consisting of lymphoid progenitor cells, myeloid progenitor cells, and combinations thereof.

60. (Canceled)

61. (Withdrawn) The method of claim 58, wherein the cells are hematopoietic stem cells.

62. (Withdrawn) The method of claim 61, wherein the hematopoietic stem cells are $CD34^{+}$.

63. (Withdrawn) The method of claim 57, wherein the cells are autologous.

64. (Withdrawn) The method of claim 57, wherein the cells are not autologous.

65. (Withdrawn) The method of claim 57, wherein the cells are administered when the thymus begins to reactivate.

66. (Withdrawn) The method of claim 55, further comprising administering cells to the patient, wherein the cells are stem cells, progenitor cells, dendritic cells or combinations thereof.

67. (Withdrawn) The method of claim 66, wherein the stem cells are selected from the group consisting of hematopoietic stem cells, epithelial stem cells, and combinations thereof.

68. (Withdrawn) The method of claim 66, wherein the progenitor cells are selected from the group consisting of lymphoid progenitor cells, myeloid progenitor cells, and combinations thereof.

69. (Canceled)

70. (Withdrawn) The method of claim 67, wherein the cells are hematopoietic stem cells.

71. (Withdrawn) The method of claim 66, wherein the cells are administered when the thymus begins to reactivate.

72. (Withdrawn) The method of claim 66, wherein the cells are administered at the time disruption of sex steroid-mediated signaling to the thymus is begun.

73. (Withdrawn) The method of claim 55, wherein the sex steroid-mediated signaling to the thymus is disrupted by surgical castration.

74. (Withdrawn) The method of claim 55, wherein the sex steroid-mediated signaling to the thymus is disrupted by chemical castration.

75. (Withdrawn) The method of claim 55, wherein the sex steroid-mediated signaling to the thymus is disrupted by administration of a pharmaceutical.

76. (Withdrawn) The method of claim 75, wherein the pharmaceutical is selected from the group consisting of LHRH agonists, LHRH antagonists, anti-LHRH vaccines, anti-androgens, anti-estrogens, SERMs, SARMs, SPRMs, ERDs, aromatase inhibitors, anti-progestogens, Dioxalan derivatives, and combinations thereof.

77. (Withdrawn) The method of claim 76, wherein the LHRH agonists are selected from the group consisting of Goserelin, Leuprolide, Lupron, Triptorelin, Meterelin, Buserelin, Histrelin,

Nafarelin, Lutrelin, Leuprorelin, Deslorelin, Cystorelin, Decapeptyl, Gonadorelin, and combinations thereof.

78. (Withdrawn) The method of claim 76, wherein the LHRH antagonists are selected from the group consisting of Abarelix, Cetrorelix, and combinations thereof.

79. (Canceled)

80. (Previously Presented) The method of claim 29, further comprising administering a cytokine, a growth factor, or a combination of a cytokine and a growth factor to the patient.

81. (Original) The method of claim 80, wherein the cytokine is selected from the group consisting of Interleukin 2 (IL-2), Interleukin 7 (IL-7), Interleukin 15 (IL-15), and combinations thereof.

82. (Previously Presented) The method of claim 80, wherein the growth factor is selected from the group consisting of a member of the epithelial growth factor family, a member of the fibroblast growth factor family, stem cell factor, granulocyte colony stimulating factor (G-CSF), keratinocyte growth factor (KGF), insulin-like growth factor, a growth hormone, a thyroid hormone, and combinations thereof.

83. (Canceled)

84. (Withdrawn) The method of claim 53, further comprising administering a cytokine, a growth factor, or a combination of a cytokine and a growth factor to the patient.

85. (Withdrawn) The method of claim 84, wherein the cytokine is selected from the group consisting of Interleukin 2 (IL-2), Interleukin 7 (IL-7), Interleukin 15 (IL-15), and combinations thereof.

86. (Withdrawn) The method of claim 84, wherein the growth factor is selected from the group consisting of a member of the epithelial growth factor family, a member of the fibroblast growth factor family, stem cell factor, granulocyte colony stimulating factor (G-CSF), keratinocyte growth factor (KGF), insulin-like growth factor, a growth hormone, a thyroid hormone, and combinations thereof.

87-90. (Canceled)

91. (Withdrawn) A method for increasing virus-specific peripheral T cell responsiveness of a patient with an at least partially atrophied thymus, comprising:

reactivating the thymus of the patient;

exposing the patient to a virus; and

determining the virus-specific peripheral T cell responsiveness in the patient,

wherein the patient has an increased viral-specific peripheral T cell responsiveness as compared to the responsiveness that would have otherwise occurred in a patient prior to thymus reactivation.

92. (Previously Presented) The method of claim 29, wherein the patient is post-pubertal.

93. (Currently Amended) The method of ~~claims~~ claim 38, wherein the autologous cells are genetically modified.

94. (Currently Amended) The method of claim [[31]] 29, wherein the sex-steroid mediated signaling to the thymus is disrupted by lowering the level of a sex steroid hormone.

95. (Previously Presented) The method of claim 29, wherein the patient is immunosuppressed.

96. (Currently Amended) The method of claim [[31]] 29, wherein the T cell depletion and disruption of sex-steroid-mediated signaling are begun at the same time.

97. (Currently Amended) The method of claim [[31]] 29, wherein the T cells are depleted before administration of cells from [[the]] a mismatched donor to the patient.

98. (Currently Amended) The method of claim [[31]] 32, wherein the disruption of sex-steroid mediated signaling is begun before T cell depletion and administration of cells.

99-100. (Canceled)

101. (Withdrawn) The method of claim 49 or 76, wherein the anti-androgen is Eulexin or ketoconazole.

102. (Canceled)

103. (Currently Amended) A method for reducing the risk of developing an autoimmune disease in a patient at risk of having or suffering an autoimmune disease, comprising:

depleting T cells in the patient; and

reactivating the thymus of the patient, the thymus being reactivated by disruption of sex steroid-mediated signaling to the thymus,

~~wherein~~ the patient [[has]] having a reduced risk of developing the autoimmune disease compared to an untreated patient at risk of having, or suffering from, the autoimmune disease.